Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

TITLE V (DRAFT PERMIT) NO. V-04-027
TOYOTA MOTOR MANUFACTURING
GEORGETOWN, KY.
JUNE 16, 2004
BRIAN BALLARD, REVIEWER
PLANT I.D. # 021-209-00030
APPLICATION LOG # 56340

EXECUTIVE SUMMARY

An application for a Title V permit for Toyota Motor Manufacturing, Kentucky (TMMK), Incorporated was received on February 16, 2004. The TMMK facility is a major source as defined in Kentucky State Regulation 401 KAR 51:017 (40 CFR 52.21), *Prevention of Significant Deterioration (PSD) of air quality*. The potential emissions of regulated air pollutants including carbon monoxide (CO), nitrogen oxides (NO_X) and volatile organic compounds (VOC) are in excess of 250 tons per year. The source is located in a county classified as "attainment" or "unclassified" for each of these pollutants pursuant to Regulation 401 KAR 51:010, *Attainment Status Designations*.

TMMK emission sources are permitted under multiple permits and registrations. From the permitting standpoint these emission sources are separated as Line 1 and Line 2 emission sources. TMMK is proposing modification/construction projects for Line 1 and Line 2 emission sources. These modification/construction projects trigger a PSD review and necessitate a Best Available Control Technology Analysis (BACT) for these emissions sources. The Division has issued a number of Construction and State Origin permits for Line 1 sources that are still presently in effect. In these Construction and State Origin permits, BACT limits have been established for numerous emission sources. This application proposes to consolidate and redefine BACT limits for Line 1 sources. These redefined BACT limits are transferred to the Title V permit. A similar process was undertaken in 1999 when a Federally Enforceable State Operating Permit (FESOP) was issued for Line 2 emission sources. All existing BACT limits from Construction, FESOP and State Origin permits issued for Line 2 sources were consolidated and redefined into one FESOP, permit F-99-029. The existing BACT limits for Line 2 sources are transferred to the Title V permit.

Construction/Modification Projects

The major construction/modification projects are taking place in the Plastics 1 and 2 shops. In these projects TMMK is proposing to modify existing paint booths. The first project, Bumper Paint 2, Booth C/D Refurbishment will result in a net emission increase of 56 tons/year of Volatile Organic Compounds (VOC) emissions. The second project, Exterior Mold Painting 1 will result in a net emission increase of 430.1 tons/year of VOC emissions. Another minor project associated with the gasoline filling operation for the Assembly 1 and 2 shops will result in a net emission increase of 6.6 tons/year of VOC emissions.

Redefined BACT Limits

In the Title V permit BACT limits are generally for VOC and Particulate Matter emissions (excluding Facilities Control). BACT limits for VOC are in pounds/job and tons/year. For the Assembly Shops, Body Operations Shop, Paint Shops and Plastics Shops a job is defined as a finished vehicle. In the Powertrain shop a job is defined as an assembled engine and axle set. For all shops (excluding Facilities Control), BACT limits for PM are in pounds/hour and tons/year. Line 2 emission sources permitted under F-99-029 were already following this convention for BACT limits. The redefined pounds/job VOC limits and pounds/hour PM limits apply to discreet Emission Units which are listed in the permit. An Emission Unit may have numerous machine points within it. For the purposes of this permit, a machine point is defined as an individual point where there is a single emission calculation for a pollutant. Through the redefinition of existing BACT limits the source has reduced its allowable VOC emissions by nearly 50%.

Best Available Control Technology Review

Pursuant to Regulation 401 KAR 51:017, Section 9(1) and (2), a major stationary source subject to PSD review shall meet the following requirements:

a) The source shall apply the Best Available Control Technology to (BACT) for each pollutant that it will have the potential to emit in significant amounts.
b) The source shall meet each applicable emissions limitation under Title 401 KAR 50 to 65, and each applicable emission standard and standard of performance under 40 CFR 60, 61 and 63.

The resultant net change in VOC emissions as a result of construction/modification projects will be greater than 40 tons/year. Therefore this pollutant is subject to a PSD BACT review.

A PSD review involves the following six requirements:

1. Demonstration of the application of Best Available Control Technology (BACT).
2. Demonstration of compliance with each applicable emission limitation under Title 401 KAR Chapters
3. 50 to 65 and each applicable emissions standard and standard of performance under 40 CFR 60, 61 and 63.
4. Air quality impact analysis.
5. Class I area impact analysis.
6. Projected growth analysis.
7. Analysis of effect on soils, vegetation and visibility.
8. A public commenting period, including an opportunity for a public hearing.

Best Available Control Technology Review (Continued)

TMMK has presented in the permit application, a study of the best available control technology for the proposed construction/modification projects for VOC emissions. The Division has reviewed the proposed control technologies in conjunction with information available in the US EPA's RACT/BACT/LAER Clearinghouse (RBLC) database and other similar sources. A summary of the control technology determined to be best available control technology for VOC emissions from each emissions unit is presented in Table 1.

EIS No.	**Emissions Unit/Process**	**Best Available Control Technology**
G21	Exterior Molded Parts Painting Booths A/B	Carry over to ovens
G21	Bake Ovens A/B	Catalytic Incinerator
G22	Bumper Painting Booths C/D	Carbon Concentrator with Thermal Oxidizer for booth zones where paint is solventborne. Water based coating, most primers. Carry over to ovens
G22	Bake Ovens C/D	Thermal Oxidizer

TABLE 1 – BACT for Emission Units associated with the construction/modification.

As can be seen in Table 1, VOC emissions from Paint Booths C/D are controlled and are not controlled from Paint Booths A/B. Paint Booths C/D are located in Line 2 operations of the Plastics shop and are in close proximity to Paint Booths E/F which currently utilize carbon concentrators with thermal oxidizers for booth control. This close proximity of existing control equipment and the capacity of the existing control equipment determined that Bumper Paint Booths C/D could utilize the existing booth controls for Paint Booths E/F. Compared to cost per ton data in EPA's RBLC database, control of VOC emissions from Bumper Paint Booths C/D was determined to be cost effective. In Line 1 there are no existing booth controls for VOC emissions and it was determined that the retrofit cost of controlling VOC emissions from Paint Booths A/B would be cost excessive when compared to data in EPA's RBLC database and other similar sources.

Best Available Control Technology Review (Continued)

TMMK's BACT analysis submittal on April 20, 2004 presents a Best Available Control Technology Demonstration for the proposed construction/modification using EPA's "top-down" methodology. Also presented in the April 20 submittal is an ambient air quality impact assessment and additional impacts analysis. This BACT analysis was determined to be sufficient by the Division in terms of content and format. However the Division requested further justification for not controlling VOC emissions from Bumper Paint C/D Paint Booths. Ultimately, the Division and TMMK agreed that VOC controls for Bumper Paint C/D would be cost effective based on previous determinations in EPA's RACT/BACT/LAER Clearinghouse (RBLC) database and other similar sources. Additional information to support the use of VOC controls for Bumper Paint C/D were submitted to the Division on May 14, 2004 and the draft permit was adjusted to reflect those changes. The Division did not request that TMMK resubmit the BACT analysis because the result of the changes were an emission decrease in VOC and would therefore have resulted in less significant impact to the environment than the original proposal submitted on April 20, 2004.

Air Quality Impacts Analysis

The ambient air quality impact analysis addresses the impact on ozone air quality and air quality monitoring. An assessment of ozone increment was determined following the U.S. EPA guidance on screening for a VOC dominated point source. The results of the assessment were that the proposed increase in VOC emissions would not result in a predicated exceedance of the 1-hour ozone NAAQS (0.120 ppm) or the 8-hour ozone NAAQS (0.085ppm). The requirement for pre- or post-construction monitoring in regard to ambient air quality impact assessment was waived due the availability of representative monitoring data. A review of the EPA AirData website indicates there are two ozone monitors located in the vicinity of the Georgetown facility. One is 4 miles north-northeast of the Georgetown facility. The other is 11 miles southeast of the facility on Iron Works Pike and Highway 353 in northern Fayette County. Since ozone data is currently being measured in Scott and Fayette counties, as well as throughout the state, the Division concluded that sufficient monitoring data exists that is representative of conditions surrounding the Georgetown facility and that pre- or post-construction monitoring would not be required.

Additional Impact Analyses

The additional impact analyses addresses construction and growth impacts, impact on soil and vegetation, analysis of endangered species, impact on visibility in Class I areas and impact on visibility in Class II areas. The activities, which will be performed within the building structures where the proposed construction/modification projects will occur are not anticipated to have an adverse affect on human health or welfare. Potential emissions of regulated air contaminants during these internal construction activities are anticipated to be negligible. No noticeable residential growth is expected from the increased production at the facility. No anticipated affect on commercial growth is expected from the increased production. No significant adverse impact on soil is anticipated due to the changes being proposed to the plastic painting lines. Maximum impacts from the proposed painting lines should be in the immediate vicinity of the facility and it is highly unlikely due to the location of the facility that endangered species would reside in these maximum impact areas. The nearest Class I area is greater than 200 km from the Georgetown facility, therefore a regional haze analysis is not required. Estimated emissions of NO_X, SO_2 and PM_{10} are less than the PSD significant emission rates and the associated exhaust stacks are exempt from modeling analyses due to large distances between the exhaust stacks and the TMMK property line. As such, visibility analyses for Class II areas are not required.

SHOP DESCRIPTIONS

Assembly #1

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from wax coating

operations, glass installation, sealer and adhesive applications, fluid filling operations, non-process cleaning operations, process cleaning operations and repair painting. The shop total potential to emit (PTE) for VOC is 92.4 tons/year. VOC emissions from fuel filling (Emission Unit A05) are controlled through the use of an Onboard Refueling Vapor Recovery (ORVR) System, which is now mandatory equipment on new automobiles. All other VOC emissions are uncontrolled. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants in Japan or from onsite testing conducted by TMMK. The shop total PTE for PM is 5.26 tons/year.

Assembly #2

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from wax coating operations, glass installation, sealer and adhesive applications, fluid filling operations, non-process cleaning operations, process cleaning operations and repair painting. The shop total PTE for VOC is 61.3 tons/year. VOC emissions from fuel filling (Emission Unit B05) are controlled through the use of an Onboard Refueling Vapor Recovery (ORVR) System. All other VOC emissions are uncontrolled. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. The shop total PTE for PM is 8.76 tons/year.

Body Operations

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from stamping press operations, adhesive/sealer application, moon roof primer application, small parts phosphate etching, small parts electrodepostion, fuel tank coating application, parts lubrication and non-process cleaning activities. The shop total PTE for VOC is 422.6 tons/year. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. PM emissions from arc welding (Emission Unit C03) are controlled with filters and scrubbers. PM emissions from heatset ovens used in asphalt sheeting (Emission Unit C05) are controlled with filters. PM emissions from the fuel tank antichip coating booths (Emission Unit C10) are controlled with filters. The shop total PTE for PM is 36.09 tons/year. BACT limits for VOC and PM from previous operating and construction permits for Body Operations 1 were consolidated and redefined for the new emission unit designations in this permit. BACT limits for Body Operations 2 for VOC and PM from permit F-99-029 were transferred to the Title V permit. Body Operations is listed as a single shop in the Title V permit. Emission Units C07 and C09 have machine points that are subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart MM.

SHOP DESCRIPTIONS (CONTINUED)

Facilities Control

The pollutants emitted from Facilities Control are the products of combustion from indirect heat exchangers (Emission Units D01, D03, D08) and back-up generators (Emission Unit D07), VOC emissions from volatile

liquid storage tanks (Emission Unit D06), and PM emissions from cooling towers (Emission Unit D05) and the wastewater pretreatment facility (Emission Unit D02).

Emission Unit D01 is six (6) utility boilers that are capable of burning either natural gas or #2 fuel oil. Construction commenced on these boilers July 17, 1986. Five of the boilers have a capacity of 99 MM BTU/hour and one has a capacity of 50 MM BTU/hour. All of these boilers are equipped with low NO_X burners. The boilers vent though two stacks. Three of the 99 MM BTU/hour boilers vent out Stack #1. The other two 99 MM BTU/hour boilers and the 50 MM BTU/hour boiler vent out Stack #2. The most recent BACT limits for these boilers are specified in permit C-86-117 (Revision 2). The BACT limits in C-86-117 (Revision 2) are for combustion of natural gas, #2 fuel oil and #6 fuel oil. These limits are lb/MMBTU limits on PM, SO_2, NO_X, CO and VOC. The permit also specifies that the sulfur content of #2 fuel oil shall not exceed 0.30%. The source no longer has the capability to use #6 fuel oil. The BACT limits in C-86-117 (Revision 2) were determined by taking the total maximum heat input for Stack #1 (297 MMBTU/hour) and the AP-42 emission factors and heating values from 1986 to calculate lb/MMBTU limits. These limits are transferred to the Title V permit except that current AP-42 emission factors have been used to calculate the BACT limits.

An analysis of the source wide BACT limits for PM, SO_2, CO, NO_X and VOC specified in C-86-117 (Revision 2) showed that it would be impossible for the source to exceed those source wide limits, therefore they were not transferred to the Title V permit. This is due in part to the source removing capability to use #6 fuel oil in the boilers. In light of this it was deemed unnecessary to test for PM, SO_2, CO and VOC emission rates with natural gas combustion for the boilers included in Emission Unit D01. A NO_X test is required by the Title V permit to verify low NO_X burners on the utility boilers.

Emission Unit D03 is all indirect heat exchangers greater than 1 MMBTU/hour and less than 10 million BTU/hour. All indirect heat exchangers in Emission D03 burn natural gas. BACT limits for Line 2 indirect heat exchangers were established in permit F-99-029. These BACT limits are tons/year limits on PM, SO_2, NO_X, CO and VOC. The BACT limits in F-99-029 for indirect heat exchangers are based on 5,094 hours/year of operation and AP-42 emission factors.

The total capacity of Line 2 indirect heat exchangers is 690 MMBTU/hour. Line 2 indirect heat exchangers are organized as follows: Building 800 (Powertrain), Building 2000 (Paint 2), Building 3000 (Assembly 2), Building 100A (Body Operations 2), Building 400A (Plastics 2).

Line 1 indirect heat exchangers account for 281 MMBTU/hour of capacity. There are no previous BACT limits for Line 1 indirect heat exchangers. Line 1 indirect heat exchanger emissions are calculated using AP-42 emission factors and 8760 hours/year of operation. Line 1 indirect heat exchangers are organized as follows: Building 100 (Body Operations 1), Building 200 (Paint 1), Building 300 (Assembly 1), Building 400 (Plastics 1) and Building 601/602 (Facilities Control).

SHOP DESCRIPTIONS (CONTINUED)

Paint #1

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from electrodeposition coating, sealer coating application, primer coating application, sanding operations, topcoat application,

blackout application, wax application, repair painting application and non-process cleaning activities. The shop total PTE for VOC is 1,865 tons/year. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), carry over efficiency (if applicable, derived from testing), oven control efficiency (if applicable, derived from testing), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Capture efficiency of VOC emissions from oven baking to oven incinerators is assumed to be 100% in the calculations presented in the application. Testing to verify this assumption will be required by the Title V permit. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. The shop total PTE for PM is 59.05 tons/year. See list below for Paint #1 control equipment. In Paint #1 primers are solventborne. Topcoats include basecoat, clearcoat and solidcoat. Basecoat is waterborne, clearcoat is solventborne and solid coat is solventborne. Emission Units E02, E04, E05, E07 and E09 have machine points that are subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart MM.

Paint #1 Control Equipment
E02 – Electrodepostion Oven
VOC Control Equipment: Recuperative Thermal Oxidizer
E04 – Sealer Oven
VOC Control Equipment: Catalytic Incinerator
E05 – Primer Booth
VOC Control Equipment: Carry over to Oven Incinerator
PM Control Equipment: Scrubber and Filter
E07 – Topcoat Line A & B
VOC Control Equipment: Catalytic Incinerator
PM Control Equipment: Scrubbers and Filters
Paint #1 Control Equipment
E07 – Topcoat Line C
VOC Control Equipment: Catalytic Incinerator
PM Control Equipment: Scrubber
E09 – Blackout Coating (Grille and Wheelhouse)
PM Control Equipment: Scrubber

SHOP DESCRIPTIONS (CONTINUED)

Paint #2

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from electrodeposition coating, sealer coating application, primer coating application, sanding operations, topcoat application,

blackout application, wax application, repair painting application and non-process cleaning activities. The shop total PTE for VOC is 1,571 tons/year. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), carry over efficiency (if applicable, derived from testing), booth control efficiency (if applicable, derived from testing), oven control efficiency (if applicable, derived from testing), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Capture efficiency of VOC emissions from oven baking to oven incinerators is assumed to be 100% in the calculations presented in the application. Testing to verify this assumption will be required by the Title V permit. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. The shop total PTE for PM is 60.62 tons/year. In Paint #2 primers are solventborne. Topcoats include basecoat, clearcoat and solidcoat. Basecoat is waterborne, clearcoat is solventborne and solid coat is solventborne. Emission Units F02, F04, F05, F07 and F09 have machine points that are subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart MM.

Paint #2 Control Equipment
F02 – Electrodepostion Oven
VOC Control Equipment: Thermal Oxidizer
F04 – Sealer Oven
VOC Control Equipment: Thermal Oxidizer
F05 – Primer Booth
VOC Control Equipment for Soft Chip: Carryover to Carbon/ Thermal Oxidizer, Carryover to Oven Incinerator
VOC Control Equipment for Exterior: Carbon System and Thermal Oxidizer, Carryover to Oven Incinerator
VOC Control Equipment for Interior: Carryover to Oven Incinerator
VOC Control Equipment for Doorsash and Rocker: Carryover to Oven Incinerator
PM Control Equipment: Scrubber
F07 – Topcoat Line A, B & C
VOC Control Equipment: Carbon System and Thermal Oxidizer, Carryover to Oven Incinerators
PM Control Equipment: Scrubbers and Filters
F07 – Topcoat Ovens A, B & C
VOC Control Equipment: Thermal Oxidizers for each oven
F09 – Blackout Booth
PM Control Equipment: Scrubber
Paint #2 Control Equipment
F09 – Touchup Station
PM Control Equipment: Filter

SHOP DESCRIPTIONS (CONTINUED)

Plastics

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from thermal injection molding, reaction injection molding, interior parts painting, door trim molding, vacuum forming, headliner

operations, non-process cleaning operations, monofoam turntable operations, exterior part painting and bumper painting. The shop total PTE for VOC is 1,794 tons/year. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), carry over efficiency (if applicable, derived from testing), booth control efficiency (if applicable, derived from testing), oven control efficiency (if applicable, derived from testing), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Capture efficiency of VOC emissions from oven baking to oven incinerators is assumed to be 100% in the calculations presented in the application. Testing to verify this assumption will be required by the Title V permit. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. The shop total PTE for PM is 70.75 tons/year. In Plastics primers are waterborne. Topcoats include basecoat, clearcoat and solidcoat. Basecoat is solventborne, clearcoat is solventborne and solid coat is solventborne. BACT limits for VOC and PM from previous operating and construction permits for Plastics 1 were consolidated and redefined for the new emission unit designations in this permit. BACT limits for Plastics 2 for VOC and PM from permit F-99-029 were transferred to the Title V permit. Plastics is listed as a single shop in the Title V permit.

Plastics Control Equipment

G03 – Reaction Injection Molding, Fiber Feed
PM Control Equipment: Filter
G03 – Reaction Injection Molding, Molding
PM Control Equipment: Filter
G04 – Interior Parts Painting, Booth 1, 2 & 3
PM Control Equipment: Scrubber for each booth
G05 – Raw Material, Regrind
PM Control Equipment: Filter
G13 – Slush Molding Operation, Systems 1, 2, 3, & 4
PM Control Equipment: Filter for each system
G14 – Vacuum Forming Process 1, 2 & 3
PM Control Equipment: Scrubber for each process
G15 – Headliner Operation, Scrap Grinding
PM Control Equipment: Filter
G21 – Exterior Parts Painting, Booths A & B
VOC Control Equipment: Carryover to oven incinerators for each booth
PM Control Equipment: Scrubbers and Filters for each booth

SHOP DESCRIPTIONS (CONTINUED)

Plastics Control Equipment (Continued)

G22 – Bumper Painting Operations, Booths C & E
VOC Control Equipment: Booths will share single Carbon System and Thermal Oxidizer (only

basecoat and clearcoat zones of booths will be controlled), Carryover to oven incinerators
PM Control Equipment: Scrubber and Filter for each booth
G22 – Bumper Painting Operations, Booths D & F
VOC Control Equipment: Booths will share single Carbon System and Thermal Oxidizer (only basecoat and clearcoat zones of booths will be controlled), Carryover to oven incinerators
PM Control Equipment: Scrubber and Filter for each booth
G22 – Bumper Painting Ovens, C, D, E & F
VOC Control Equipment: Thermal Oxidizer for each oven

Powertrain

The pollutants emitted from this shop are VOC and PM. VOC emissions originate from cutting operations, coating operations, honing operations, grinding operations, non-process cleaning activities, corrosion inhibitor application, quenching operations, washing operations, gasket installation, block impregnation, raw material storage and engine testing. The shop total PTE for VOC is 182.4 tons/year. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. The shop total PTE for PM is 16.1 tons/year. BACT limits for VOC and PM were previously established in permit F-99-029 and are transferred to the Title V permit.

Powertrain Control Equipment
H01 – Cutting Operations
PM Control Equipment: Electrostatic Air Cleaner, Dry Filters and HVAC Filters
H03 – Honing Operations
PM Control Equipment: Dry Filters, HVAC Filters
H04 – Grinding Operations
PM Control Equipment: HVAC Filters
H08 – Quenching
PM Control Equipment: HVAC Filters

Compliance with 40 CFR 60 Subpart MM:

TMMK must comply with the standards specified in Subpart MM. TMMK's methodology of complying with the Subpart MM standards will differ from the reporting and record keeping requirements of Subpart MM. Subpart MM specifies that where catalytic incineration is used, every three-hour period during which the

average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent control device performance test at which destruction efficiency was determined, the owner or operator shall submit a written report. In this Title V permit, the Division and TMMK have agreed to an alternative to monitoring the temperature difference across the catalyst bed. The alternative is to monitor the temperature at the inlet to catalyst bed and for the source to implement a site-specific inspection and maintenance plan for catalytic incinerators. This alternative is specified in 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light-Duty Trucks, which was finalized in the Federal Register on April 26, 2004. The minimum requirements of the inspection and maintenance plan are specified in the Title V permit. As required by the permit, TMMK will submit the inspection and maintenance plan to the Division for review within 30 days after issuance of the final permit.

AIR TOXICS MODELING:

An air toxics modeling analysis was submitted by TMMK in order to address 401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances. The modeling was performed following the procedures in the U.S. EPA's *Guideline for Air Quality Models* (Supplement W to 40 CFR 51). The emissions data of air toxics used in the model were based on the TMMK's most recent air toxics emission inventory (Year 2003). The potential air toxics emissions were calculated by scaling the year 2003 emissions upward by a factor of 1.4985 based on calendar year 2003 production. TMMK developed an air toxic emission weighted procedure for the purposes of defining a hypothetical "combined stack" that was placed centrally between the two buildings where painting operations are performed. The ISC3 Short Term Mode Version 3 (ISCST3) model contained in the commercially available Beeline Software package was used in the analysis. The results of the modeling were compared to most recent version of the Preliminary Remediation Goals (PRG) values (for year 2002). ISC3 predicted annual concentrations were used for the comparison to the PRGs. The modeled predictions were below the PRG levels. Therefore, it was determined that no further analysis was necessary.

PERIODIC MONITORING:

For all shops (excluding Facilities Control), the permittee shall keep calendar month records of usage of all applicable raw materials. Following the end of each month, Volatile Organic Compounds (VOC) emissions and Particulate Matter (PM) emissions shall be calculated on a twelve-month rolling average and recorded. These records shall represent the most recent year and shall show compliance with VOC and PM emission limitations listed in the Title V permit.

PERIODIC MONITORING (CONTINUED):

For Facilities Control, the permittee shall monitor the volume of natural gas and #2 fuel oil usage. Following the end of each month the volume of natural gas and #2 fuel oil for each boiler specified in emission unit D01 and for each building with affected facilities included in emission unit D03 shall be calculated on a twelve-month rolling average and recorded. The permittee shall maintain records of volume of natural gas and #2 fuel oil burned for each boiler specified in emission unit D01 and for each building with affected facilities included in emission unit D03. These records shall represent the most recent year and shall show compliance with standard cubic feet and gallons standard ranges listed in the Periodic Monitoring Requirements table of the Title V permit. Following the end of each month, PM, SO_2, NO_X, CO and VOC emissions shall be calculated on a twelve-month rolling average and recorded. The permittee shall maintain records of the sulfur content of each shipment of #2 fuel oil.

The permittee shall submit summary monitoring reports every six (6) months containing monitoring information listed in Sections B.4 and B.5 of the Title V permit. The report shall list any "out of standard" conditions or periodic monitoring requirements, as listed in the Periodic Monitoring Requirements tables in Section B of the permit. If no "out of standard" conditions occurred, the permittee shall submit a negative report.

In Paint #2 and Plastics Shops there are items in the Periodic Monitoring Requirements tables in regard to the Carbon Abatement Systems that have not been determined yet:

Rotational Speed of Concentrators (Emission Units F05, F07 and G22)

The rotational speed of the concentrator is an indicator of performance for the carbon abatement system. The indicator range is the nominal speed at which the concentrator operated during the most recent emissions performance test. However, the indicator range for the rotational speed may be changed if an engineering evaluation is conducted and a determination made that the change in speed will not impact compliance with the emission limit. The permittee shall establish the standard range for the rotational speed of the concentrator, the method or device for determining the rotational speed of the concentrator and the calibration frequency for that device if applicable. These items shall be added to the Periodic Monitoring Requirements table in the Title V permit at the time of the next performance test of that carbon concentrator system.

Maximum Achievable Control Technology (MACT) Standards:

This source is subject to the following MACT Standards*:

40 CFR Part 63 Subpart PPPPP, National Emission Standards for Hazardous Air Pollutants: Engine Test Cells/Stands – Compliance Date, May 27, 2006

40 CFR Part 63 Subpart MMMM, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts – Compliance Date, January 2, 2007.

40 CFR Part 63 Subpart PPPP, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products – Compliance Date, April 19, 2007.

40 CFR Part 63 Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light-Duty Trucks – Compliance Date, April 26, 2007.

As specified in 40 CFR Part 63 Subpart IIII, the source has the option to include miscellaneous metal parts and plastic parts and products surface coating operations under Subpart IIII. The source has yet to determine if it will exercise this option. The source must notify the Division no later than January 2, 2005 of its intention to include miscellaneous metal parts coating under Subpart IIII or Subpart MMMM. The source must notify the Division no later than April 19, 2005 of its intention to include plastic parts and products coating under Subpart IIII or Subpart PPPP.

*The source may be or become subject to other MACT Standards before the Title V permit expires.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.